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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09 740,513	12 19 2000	Kiyoto Takizawa	AK-339XX	5149

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Boston, MA 02109

EXAMINER

KERNS, KEVIN P

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 06 04 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/740.513

Applicant(s)

TAKIZAWA ET AL.

Examiner

Kevin P. Kerns

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 29 April 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of.
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 16
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-51827 in view of JP 9-108805.

JP 7-51827 discloses an (in-line) injection molding apparatus for injecting molten metal into a mold that comprises dies (61,62) clamped on a base having a pedestal with a frame and hydraulic cylinder means, in which the injection molding apparatus includes the following integral features:

1) an in-line injection mechanism that includes screw cylinder devices (2,4) having a driven, rotating screw 2 (agitator member), such that the injection mechanism has a tip portion (with a nozzle member filling the space occupied by the "weighing chamber" when the injection mechanism is in its forward position), a melting cylinder (arranged under the feeding means, or supply port, into which metal ingots are melted), and a rear portion having the screw flights near the screw drive motor area (abstract; and Figures 1 and 2); and

2) plunger cylinder devices (5,6) concentrically arranged within and extendable (into the "weighing chamber") beyond the screw cylinder devices (2,4) with a sliding clearance, such that screw 2 (agitator member) is a hollow member extending the length of the melting cylinder and has agitating wings (screw flights) arranged around the hollow (screw) shaft, with the wings/flights having an external diameter approximately equal to an inner diameter of the melting cylinder (abstract; and Figures 1 and 2).

JP 7-51827 does not disclose the obliquely arranged melting cylinder (with the tip portion directed downwardly for molten metal flow toward the front (tip) portion, as well as the sealing ring on an outer periphery of the tip of the plunger.

However, JP 9-108805 discloses an injection molding apparatus having a variably inclined (obliquely arranged) injection mechanism 17, such that the front (tip) portion (nozzle 18) is directed downwardly onto a nozzle touch block, or sprue bush (abstract; and Figures 4, 5, and 9). The region of the outer periphery of the tip portion of the plunger includes a sealing ring (see Figure 2 for more detail) located on the inner periphery of injection cylinder 17 (Figures 1, 2, and 5). These features are advantageous for accurate weighing of the molten material and to prevent material infiltration to the rear part of the screw shaft (abstract).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the injection molding apparatus having concentrically arranged injection mechanism means, as disclosed by JP 7-51827, by adding the variably inclined injection mechanism and sealing ring of JP 9-108805, in order to achieve accurate weighing of the molten material and to prevent material infiltration to the rear part of the screw shaft (JP 9-108805; abstract).

Response to Arguments

5. The examiner acknowledges the applicants' amendment and proposed drawing correction (paper #15) and newly submitted Information Disclosure Statement (paper #16), all of which were received by the USPTO on April 29, 2003. The proposed

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drawing correction is approved. The applicants' amendments have overcome the prior claim objections and rejections under 35 USC 112, 2nd paragraph. In addition, the applicants' amendments have overcome the previous prior art rejections of claims 1-7 under 35 USC 103(a), as set forth in the Office Action mailed on October 25, 2002. The examiner has considered the new IDS (paper #16), and an initialed copy of this document is enclosed with this communication. Claims 1-7 remain under consideration in the application.

6. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (703) 305-3472. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-6078 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

kpk
May 31, 2003

M. ALBERTINI
PR